REMARKS

The Examiner is thanked for withdrawing the rejection under 35 U.S.C.§112, second paragraph.

In paragraph 2 of the Office Action, Claims 1, 3, 7, 11-12, and 14-16 were rejected under 35 U.S.C.§103(a) as being unpatentable over Kageyama in view of Wulfers. In paragraph 3 of the Office Action, Claim 13 was rejected under 35 U.S.C.§103 as being unpatentable over Kageyama in view of Minami.

Reconsideration is requested.

Claim 1 has been amended to point out that the base oil consists of synthesized hydrocarbon oil and 20% by weight or more of alkydiphenyl ether oil or consists of alkyldipenyl ether oil. The symbol R_2 has been inserted into claim 1 to correct a typographical error. New claim 17 has been added based on the specification at page 7,line 9 et seq. Claims 18 and 19 are based on claim 1 and they point out alternate embodiments that are recited in claim 1. Claims 3 and 14-16 have been canceled and are no longer at issue.

The claimed grease composition is based on the addition of sodium sebacate which imparts a long life and prevents abnormal peeling of a bearing that is subjected to quick acceleration and declaration. Sodium sebacate was known as an anticorrosion additive but was not known for its effect of preventing abnormal peeling.

Kageyama disclosed that his invention provided a grease which prevented oxidation and excellent shear stability at high temperatures. Kageyama was silent as to

the ability of his grease to prevent abnormal peeling of a rolling surface of a bearing under rapid acceleration and deceleration conditions.

The Wulfers patent has been applied as disclosing urea-thickened greases that may contain sodium separate as a corrosion inhibitor and glycerol monooleate as a corrosion inhibitor. The Examiner also commented that it would have been obvious to one of ordinary skill in the art to include sodium sebacate to the grease composition of Kageyama in order to impart antioxidation properties to the composition. There is no information in Wulfers that in any way suggests that the Wulfers formulation, when added to the Kageyama formulation would provide a formulation that would prevent abnormal peeling of a rolling bearing under rapid acceleration or deceleration conditions. Wulfers does not disclose any technical information for the prevention of an abnormal peeling of a rolling surface of a bearing under quick acceleration/deceleration conditions.

Wulfers disclose a triazine-urea thickener for greases for high temperature applications. No information is given regarding the compatibility of this thickener with specific base oils. Wulfers does not teach or suggest any technical information for the prevention of an abnormal peeling of a rolling surface of a bearing under rapid acceleration and deceleration.

Wulfers at col. 4, line 66 et seq., mentions sodium sebacate as an example of an anticorrosion additive in a list that also includes glyceryl monooleate, sodium sulfonates, sodium nitrite, amino- and benzo-triazoles and the like. Wulfers does not disclose any information that focuses on sodium

sebacate to the exclusion of the other anticorrosion agents.

Claim 1 points out that a specific rust preventive is present, namely a partially esterified multivalent alcohol or an organic sulfonic acid salt of an alkali metal or an alkali earth metal. Neither Kageyama nor Wulfers disclose these rust preventives.

The addition of sodium sebacate to the grease results in a grease that provides extended bearing life even when the bearing is subjected to rapid acceleration and deceleration where abnormal peeling is prevented. It is not obvious to use sodium sebacate as a peeling preventative based on the teachings of Wulfers. When the test results of Example 1 and Comparative Example 1 (Specification, pages 21 and 22) are considered, it is apparent that the addition of sodium sebacate provides extends bearing life (>300 hours vs. 130 hours) in a rapid acceleration-deceleration test

Attached is a summary of the test data that appears in the specification with data from three additional tests. These data show that the claimed invention gives high temperature resistance and good results in the acceleration/deceleration test.

The claimed composition is novel and has the unexpected result of imparting high peeling resistance when applied to a rolling bearing. The cited references are silent as to this result which could not have been predicted from the prior art The corrosion resistance which was the property that the Examiner relied upon as the motivation for combining the teachings of the cited references is unioform and in some cases in zero.

Wulfers teaches away from combining the sodium sebacate with organic grease thickeners as they "do not afford the extended operating lifetimes as measured by thermal and mechanical stability at high temperatures" (col. 1, lines 53-56). Thus the negative teaching against the use of the organic thickeners, is persuasive that the combined teachings of Wulfers and Kageyama fail to establish a *prima facie* case of obviousness.

Wulfers' invention is related to a triazine urea compound that acts as a thickening agent and that compound is not an aromatic urea because the hetrerocyclic triazine ring is not an aromatic ring. In addition, the formula of claim 1 of Wulfers has an R group which is an aliphatic hyrdrocarbyl group of 16-22 carbon atoms. Since the triazine urea of Wulfers is distinctly different from the aromatic diurea of the present invention, the combination of the triazine urea compound and the sodium sebacate of Wulfers cannot suggest the combination of the aromatic diurea and sodium sebacate according to the claims of the present application. The data of record which points out that grease compositions within the claims when used with a sealed bearing provide excellent results in the high-temperature and high-speed test, the sudden acceleration/deceleration test and the rust preventive test is persuasive of the non-obviousness of the claimed invention.

The negative teaching in Wulfers that relates to sodium sebacate makes it unobvious to use sodium sebacate with the agents of Kageyama because Wulfers teaches away from combining sodium sebacate with the urea thickeners of Kageyama. This argument points up the fact that only in the claims of the present application does one find the combination of the specific dialkyl phenyl ether oil, the

urea thickener, sodium sebacate and the specific rust preventives of the amended claims.

The data of the Examples and the Comparative Examples are believed to be commensurate with the amended claims which all recite the presence of a rust preventive agent and sodium sebacate. The test data demonstrates that the presence of the combination barium sulfonate (a organic sulfonic acid salt of an alkali metal) or sorbitan trioleate (a partially esterfied multivalent alcohol) in the absence of sodium sebacate provides a rust preventive effect but inferior performance regarding speed and acceleration testing. This data is based on the presence or absence of the sodium sebacate component. Minami discloses a grease that employs a non-aromatic diurea compound without any mention of sodium sebacate. No mention is made in Minami or in Kageyama or in Wulfers that sodium sebacate prevents abnormal peeling effect of rolling bearings.

Rust preventive agents are mentioned by Minami but the combination claimed in the present application is not made obvious by Minami alone or in combination with Kageyama or Wulfers. For these reasons, it is requested that the rejection of record be withdrawn.

				Comparative example 1	Comparative example 2	Comparative example 3	Comparative example 4	Comparative example 5	Comparative example 6	Comparative example 7
Component (parts by weight)	Base oil	Synthesized hydrocarbon oil*1		16	16	16				
		Alkyldiphenyl ether oil*2		64	64	64	80	80	78	83
	Thickener	Amine	p-toluidine	9.3	9.3	9.3	9.3	4.6	4.6	
		Amine	cyclohexylamine					4.4		
		Amine	octylamine						5.1	8.6
		Diisocyanate	MDI*3	10.7	10.7	10.7	10.7	11.0	10.3	8.4
	Additives	Ba sulfonate		1	1		1	1	1	1
		Sorbitanester*4		1		1	1	1	1	1
		Metal salt of dibasic acid (Na sebacate)								
		Alkylated diphenylamine		2	2	2	2	2	2	2
		Dilaurylthiodipropionate								
		Tetrakis-(methylene-3-(3',5'-di-t-butyl-4-hydroxyphenyl)propionate)methane								
Properties	Viscosity of base oil (40°C, mm^2/s)			72	72	72	97	97	97	97
	Worked penetration (JIS K2220)			272	270	280	282	285	280	260
	High temperature and high speed test, h			250	600	600	800	1200	1300	600
	Quick acceleration and deceleration test,h			130	250	220	180	200	250	120
	Rust preventative properties, number			0	18	22	1	6	4	1

*1) "Shinfluid 601" from Nippon Steel Chemical Co., Ltd.
*2) "LB100" from Matsumura Sekiyu:KK
*3) diphenylmethandiisocyanate
*4) sorbitantrioleate

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				Example										
				1	2	3	4	5	6	7	8	9	10	11
Component (parts by weight)	Base oil	Synthesized hydrocarbon oil*1		16	16			16		16		16	64	16
		Alkyldiphenyl ether oil*2		64	64	80	80	64	80	64	80	64	16	64
	Thickener	Amine	p-toluidine	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	10.2	8.4
		Diisocyanate	MDI*3	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	11.8	9.6
	Additives	Ba sulfonate			1		1		1		1			
		Sorbitanester*4		1		1		1		1		3	1	3
		Metal salt of dibasic acid (Na sebacate)		1	1	1	1	1	1	1	1	3	1	3
		Alkylated diphenylamine		2	2	2	2							
		Dilaurylthiodipropionate						2	2	2	2			
		Tetrakis-(methylene-3-(3',5'-di-t-butyl-4-hydroxyphenyl)propionate)methane								1	1	1	1	1
Properties	Viscosity of base oil (40°C, mm^2/s)			72	72	97	97	72	97	72	97	72	54	72
	Worked penetration (JIS K2220)			286	264	292	288	288	300	284	298	288	298	276
	High temperature and high speed test, h			1200	1000	1600	1400	2200	2600	2900	3000	3800	4000	4200
	Quick acceleration and deceleration test,h			>300	>300	>300	>300	>300	>300	>300	>300	>300	>300	>300
	Rust preventative properties, number			3	1	5	2	1	4	0	5	0	0	0

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*3) diphenylmethandiisocyanate
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